SPECIFICATION FOR COTCO LED LAMP

Document No: SPE/LC503AHR1-50Q-A
Model No : LC503AHR1-50Q-A
Rev. No: 02
Date: 2006-10-17

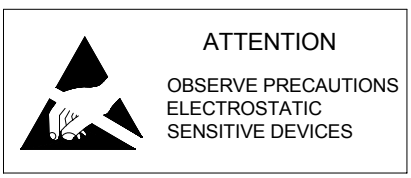
Description:

50 Degree 5mm Round LED Lamp in High Red Color with Water Transparent Lens and No Stopper

Dice Material: AlGaInP

Confirmed by Customer: _____

Date: _____



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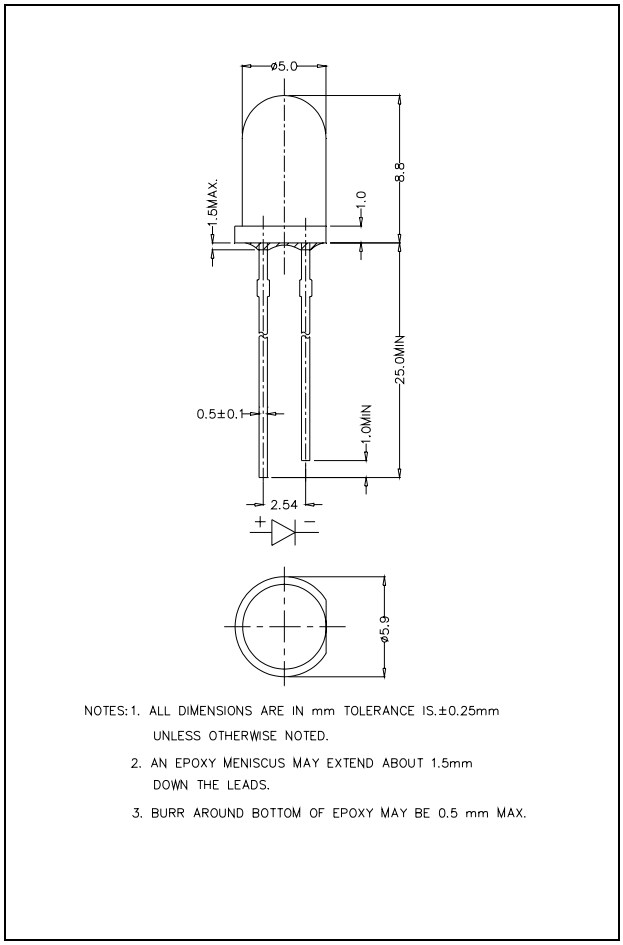
Applications:

- Advertising Signs
- Indicators
- Traffic
- Automotive Lighting

Dimension Drawing



Absolute Maximum Ratings at Ta = 25°C

Items	Symbol	Absolute maximum Rating	Unit
Forward Current*2	I_F	50	mA
Peak Forward Current*1	I_{FP}	200	mA
Reverse Voltage	V_R	5	V
Power Dissipation	P_D	130	mW
Operation Temperature	T_{opr}	-40 ~ + 95	°C
Storage Temperature	T_{stg}	-40 ~ +100	°C
Lead Soldering Temperature	T_{sol}	Max.260°C for 3 sec Max. (3mm from the base of the epoxy bulb)	
Electrostatic Discharge Classification (MIL-STD-883E)	ESD	Class 1	

*1 pulse width <=0.1msec duty <=1/10

*2 For long term performance the drive currents between 10mA and 30mA are recommended. Please contact COTCO sales representative for more information on recommended drive conditions.

Typical Electrical & Optical Characteristics (Ta = 25°C)

Items	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	I_F = 20mA	---	2.1	2.6	V
Reverse Current	I_R	V_R = 5V	---	---	100	μA
Dominant Wavelength	λ_D	I_F = 20mA	618	624	630	nm
Luminous Intensity	I_V	I_F = 20mA	1100	1800	---	mcd
50% Power Angle	$2\theta_{1/2}$	I_F = 20mA	---	50	---	deg

Standard bins for LC503AHR1-50Q-A (I_F = 20mA):

Lamps are sorted to Luminous Intensity –I_V & Dominant Wavelength – λ_D bins shown.

Orders for LC503AHR1-50Q-A may be filled with any or all bins contained as below.

All Luminous Intensity –I_V & Dominant Wavelength – λ_D values shown and specified are at If=20mA.

***T+**

* T+ indicates Luminous Intensity is at T bin or above.

Important Notes:

1) All ranks will be included per delivery, rank ratio will be based on the Dices distribution.

2) Pb content <1000PPM.

3) Tolerance of measurement of luminous intensity is ±15%.

4) Tolerance of measurement of dominant wavelength is ±1nm.

5) Tolerance of measurement of Vf is ±0.05 V.

6) Packaging methods are available for selection, Please refer to PACKAGING STANDARD.

7) Please refer to LED LAMP RELIABILITY TEST STANDARD for reliability test conditions.

8) Please refer to APPLICATION NOTES for Application.

Graphs

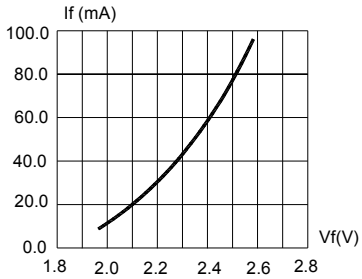


FIG.1 FORWARD CURRENT VS. FORWARD VOLTAGE.

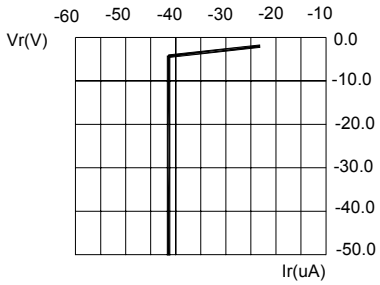


FIG.2 REVERSE CURRENT VS. REVERSE VOLTAGE.

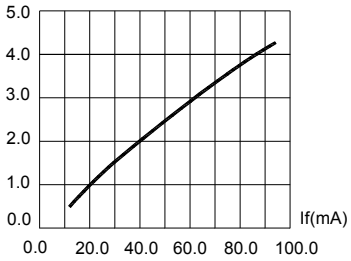


FIG.3 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT.

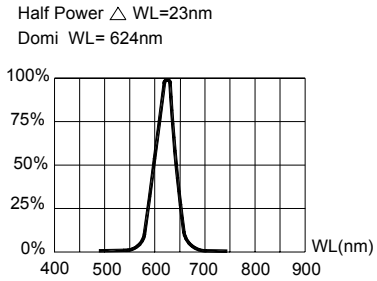


FIG.4 RELATIVE LUMINOUS INTENSITY VS. WAVELENGTH.

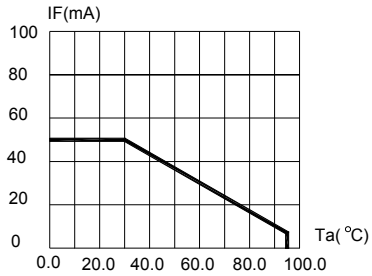


FIG.5 MAXIMUM FORWARD DC CURRENT VS AMBIENT TEMPERATURE (Tjmax=105°C)

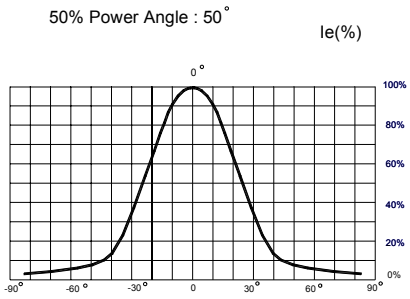


FIG.6 FAR FIELD PATTERN

Items	Signatures	Date
Prepared by	LiuZM	2006-10-17
Checked by	Aldosin	2006-10-17
Approved by	David	2006-10-17
FCN#	FCN20060335	

Revision History		
Rev. No	Date	Change Description
02	2006-10-17	Release. IV from S,T,U(typ)1400 to T,U,V(typ)1800mcd.